

Remarks/Arguments

Claims 1, 3, 6, 9, 12, and 13 have been amended. No new claims have been added. No claims have been canceled. Claims 1, 3-7, 9-13, and 15-18 remain pending in this application. Reexamination and reconsideration of the application as amended are respectfully requested.

Claim Rejections - 35 USC § 103

The Examiner rejected claims 1, 3-7, 9-13, and 15-18 under 35 U.S.C. § 103(a) as being unpatentable over Xu et al. (U.S. Patent 6,324,581), and further in view of Schmuck et al., U.S. Patent 5,940,841. Applicants respectfully traverse this rejection for the reasons set forth below.

Claims 1, 7, and 13

Regarding claims 1, 7, and 13, the Examiner argues that Xu et al. (column 8 lines 47-59 and Figure 2) teaches the fifth claim element of “determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes”. However, Xu et al. (column 8 lines 47-59) reads:

“For example, when the first data mover 41 receives a file access request from its client 46, it accesses its directory of file ownership information to determine whether or not it owns the file system to be accessed. If the first data mover 41 does not own the file

system to be accessed, then the first data mover 41 sends a metadata request to the data mover that owns the file system to be accessed. For example, if the first client 46 requests access to the second file system 44, then the first data mover 41 sends a metadata request to the second data mover 42. The term metadata refers to information about the data, and the term metadata is inclusive of file access information and file attributes.”

Xu et al. teaches file attributes such as a file ownership file attribute indicating which data mover owns a particular file. Xu et al. also teaches foreign file attributes such as the file attributes sent to a first data mover of a file located on and owned by a second data mover. However, Xu et al. fails to teach or suggest determining a subset of these second data mover file attributes (foreign file attributes) which are equivalent to a corresponding subset of file attributes of a client. Xu et al. also fails to teach or suggest determining a subset of the second data mover file attributes which are equivalent to a corresponding subset of file attributes of the first data mover (determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system). Xu et al. merely teaches using a file attribute of the native file system (file ownership) to determine if the file is owned by and located on the native file system. If the file is not owned by and located on the native file system, then Xu et al. teaches using the file attribute of the native file system (file ownership) to determine which foreign file system (second data mover) owns the file so that a request may be sent to the foreign file system (second data mover) to obtain the file's file attributes (foreign file attributes). However, Xu et al. fails to teach or suggest any comparison of these foreign file attributes (second data mover) to the file attributes of the native file system (first data mover) to determine

any subset, or in particular, any subset of second data mover file attributes which are equivalent to a subset of first data mover file attributes.

In the present Office Action in response to Applicants' arguments, the Examiner asserts that Xu et al. at Fig. 2, col. 8, lines 47-59 teaches determining if a foreign file (requested file) is existing in the local directory using the attributes of the file on the basis of requested file and sends same attributes to the data mover that owns the file. However, determining if the data mover owns a particular file system or a particular file is not a determination of which sets of file attributes in two different file systems are equivalent and corresponding. This Xu et al. passage teaches determining if a particular file attribute has a value which is equal to a particular value (if the file attribute file name is equal to a particular file name, or if the file attribute owner is equal to a particular system name). This Xu et al. passage does not teach evaluating both the native file system file attributes and the foreign file system file attributes to determine two subsets or lists of file attributes: conventional file attributes which are defined by the claim limitations as a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system; and extended file attributes which are defined by the claim limitations as a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system. More particularly, this Xu et al. passage does not teach evaluating the file owner file attribute of the foreign file system (data mover) against the various file attributes of the native file system (client or data mover) to determine if there is a corresponding file attribute of the native file system which is equivalent to the foreign file system

file owner file attribute, and to repeat this evaluation and determination for the other foreign file attributes so as to produce two subsets or lists of file attributes: conventional file attributes having corresponding equivalents between the two file systems, and extended file attributes not having corresponding equivalents between the two file systems.

Thus, even if the teachings of Xu et al. and Schmuck et al. are combined, the alleged combination fails to teach or suggest the present invention as claimed by independent claims 1, 7, or 13. Applicants therefore submit that the Examiner's rejections of claims 1, 7, and 13 are traversed, and Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. § 103(a) rejections of independent claims 1, 7, and 13.

Regarding independent claims 1, 7, and 13, the Examiner also argues that Xu et al. (at column 8, line 65 to column 9, line 6) teaches the sixth claim element "returning the conventional file attributes to the client". As discussed above, since neither Xu et al., Schmuck et al., nor the combination of Xu et al. and Schmuck et al. teach or suggest the fifth element, they cannot teach or suggest a result of the fifth element, the conventional file attributes. The conventional file attributes are defined by the fifth element as the subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system. As neither Xu et al., Schmuck et al., nor the combination of Xu et al. and Schmuck et al. teach or suggest the conventional file attributes, they cannot teach or suggest "returning the conventional file attributes to the client". Thus, even if the teachings of Xu et al. and Schmuck et

al. are combined, the alleged combination fails to teach or suggest the present invention as claimed by independent claims 1, 7, or 13. Applicants therefore submit that the Examiner's rejections of claims 1, 7, and 13 are traversed, and Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. § 103(a) rejections of independent claims 1, 7, and 13.

Regarding independent claims 1, 7, and 13, the Examiner also argues that although Xu et al. fails to teach the seventh element, that Schmuck et al. teaches the seventh claim element "storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes" at column 10, lines 43-53. Schmuck et al. at column 10, lines 43-53 reads:

"Whenever a new record is added to a hash bucket, we store together with the record, the hash tree level of the hash bucket at that time. When the hash bucket is split, the hash tree level stored in the bucket header is incremented, but the hash tree level stored with each record is left unchanged. The records that are moved to the new hash bucket keep their original hash tree level values as well. Thus by comparing the hash tree level values associated with a particular record with the hash tree level stored in the hash bucket header, it is possible to determine whether the record was inserted before or after the bucket was last split."

This Schmuck et al. passage dealing with records within a file fails to teach or suggest file attributes or extended file attributes. However, at column. 27, lines 7-12, Schmuck et al. does define extended file attributes as meaning variable-length information associated with a file that can be accessed separately from the data stored in the file itself. "In order to do this we provided extended file attributes for efficient support of Access Control Lists, of the kind known in the Unix environment. Extended attributes allow associating variable-length information with a file that can be accessed separately from the data stored in the file itself." (col. 27, ln. 7-12). The claims limitations of the present invention define extended file attributes as foreign file attributes which are not equivalent to corresponding file attributes of the native file system. The extended file attribute teachings of Schmuck et al. are different from the teachings of the present invention and do not teach or suggest the extended file attribute teachings of the present invention.

Thus, even if the teachings of Xu et al. and Schmuck et al. are combined, the alleged combination fails to teach or suggest the present invention as claimed by independent claims 1, 7, or 13. Applicants therefore submit that the Examiner's rejections of claims 1, 7, and 13 are traversed, and Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. § 103(a) rejections of independent claims 1, 7, and 13.

Claims 3-6, 9-12, and 15-18

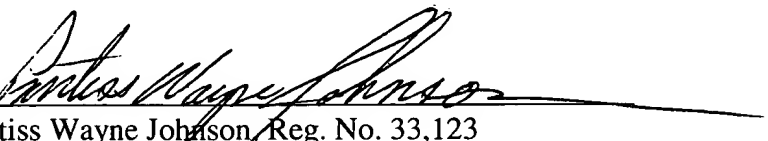
Relative to dependent claims 3-6, 9-12, and 15-18, since these dependent claims depend from one of independent claims 1, 7, or 13, and Applicants believe that they have successfully

traversed the Examiner's rejection of independent claims 1, 7, and 13, Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. § 103(a) obviousness rejections of dependent claims 3-6, 9-12, and 15-18.

Conclusion

Applicants therefore respectfully request that the Examiner reconsider all currently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this Application, the Examiner is invited to telephone the undersigned at the number provided. Prompt and favorable consideration of this Response is respectfully requested.

Respectfully submitted,
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